

REMARKS

Claims 16-37 remain in this application. Claims 16, 17, 19, 26, 27, 28, 32, and 33 have been amended. Claims 36 and 37 have been added. No claims have been cancelled. The Applicants respectfully request reconsideration of this application in view of the above amendments and the following remarks.

35 U.S.C. §112 Rejection

The Examiner has rejected claims 16-35 under 35 U.S.C. §112, second paragraph, as allegedly being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In particular, the Examiner has stated that the terms “unsupported component” and “active” are confusing.

The Applicants respectfully submit that the present claims are definite under 35 U.S.C. §112, second paragraph. Independent claims 16, 26, and 32, are presently pending in this case.

Claim 16, as amended, recites a method comprising “*applying a photoresist layer to a first substrate to protect a portion having a first circuit; etching a portion of the first substrate that is not protected by the photoresist layer; bonding the first substrate to a second substrate after said etching; and thinning the first substrate to remove a bevel portion of the first substrate*”.

Accordingly, claim 16 does not recite the terms “active” or “unsupported”. For at least this reason, claim 16, as well as dependent claims 17-25, are believed to be allowable. Dependent claim 36 is also believed to be allowable for reasons similar to those discussed below for claim 26.

Claim 26, as amended, recites a method comprising *"removing a first portion of a first substrate that is not an active component; bonding the active component of the first substrate to a second substrate; and thinning the first substrate to remove an unsupported component of the first substrate"*.

Applicants respectfully submit that claim 26 is definite, since the words "active" and "unsupported component" are sufficiently clear and precise to render the claim definite.

The term "active" is a term that is well known in the art of manufacturing integrated circuits. Attached herewith as Appendix A is four pages from the SEMATECH Official Dictionary, Revision 5.0, including definitions for "active area" and "active devices". Active area is defined as the region of thin oxide on a die or wafer in which transistors and other circuits reside. Active devices are defined as semiconductor devices that have active function, such as integrated circuits and transistors. Accordingly, an "active" portion of a substrate is well known in the arts to refer to a portion of the substrate that includes transistors or other integrated circuitry.

The term "unsupported component" is sufficiently clearly and precisely defined in the patent application. Paragraph [0003] of the patent application states that *"The wafer substrate that is to be grinded includes a bevel component that is unsupported during the grinding step of the process."* One example of an unsupported component is shown in Figure 1 of the patent application. In paragraph [0014] of the patent application it is discussed that, *"The bevel of the top wafer is an area that is unsupported by the bottom wafer. Thus, as the grinder asserts pressure at the top wafer, portions of the bevel beyond the unsupported area may be chipped away, resulting in the possibility of relatively large portions of the top wafer being delaminated."* Another example of an unsupported component is shown in Figure 3 of the patent application as bevel component

410. Figure 6 of the patent application shows a grinding wheel 610 applied to the thinned wafer 320, which is bonded to wafer 530. As discussed in paragraph [0020], *"According to one embodiment, the unsupported bevel portion 430 of wafer 320 is ground off during the thinning process. Thus, chipping or damage that may have occurred on the unsupported bevel portion 430 is removed without effecting the remaining portion of wafer 320."*

Additionally, plain and ordinary meaning is intended for the term "support". By way of example, Appendix B includes three pages from Webster's II New College Dictionary including a definition of "support". Support is defined as to carry the weight of, especially from below. Appendix C includes 2 pages including a definition of "support" from Merriam-Webster Online Dictionary online at <http://www.m-w.com/>. Support is defined as to hold up or serve as a foundation or prop for. Other definitions of support may also be suitable.

For at least these reasons, Applicants respectfully submit that claim 26 is definite and complies with the requirements of 35 USC Section 112, Second Paragraph. Accordingly, claim 26, and its dependent claims, are believed to be allowable.

Claim 32, as amended, recites a method comprising *"forming a layer over a first circuit of a first substrate; removing a portion of the first substrate that is not under the layer; removing the layer; bonding the first circuit of the first substrate to a second substrate having a second circuit after said removing the layer; and thinning the first substrate to remove a portion that is not supported by the second substrate"*.

Accordingly, claim 32 does not recite the terms "active" or "unsupported". For at least this reason, claim 32, as well as dependent claims 33-35, are believed to be allowable. Dependent claim 37 is also believed to be allowable for reasons similar to those discussed above for claim 26.

Conclusion

In view of the foregoing, it is believed that all claims now pending patentably define the subject invention over the prior art of record and are in condition for allowance. Applicants respectfully request that the rejections be withdrawn and the claims be allowed at the earliest possible date.

Request For Telephone Interview

The Examiner is invited to call Brent E. Vecchia at (303) 740-1980 if there remains any issue with allowance of the case.

Request For An Extension Of Time

The Applicants respectfully petition for an extension of time to respond to the outstanding Office Action pursuant to 37 C.F.R. § 1.136(a) should one be necessary. Please charge our Deposit Account No. 02-2666 to cover the necessary fee under 37 C.F.R. § 1.17 for such an extension.

Charge Our Deposit Account

Please charge any shortage to our Deposit Account No. 02-2666.

Respectfully submitted,
BLAKELY, SOKOLOFF, TAYLOR & ZAFMAN LLP

Date: 1/27/06

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Attorney Docket No. 42P17268
Application No. 10/811,758

Appendix A

Definition of "active area" and
"active areas" from SEMATECH Official Dictionary,
Revision 5.0

**SEMATECH Official Dictionary
Revision 5.0**

Technology Transfer 91010441C-STD

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SEMATECH Official Dictionary, rev. 5.0

Technology Transfer # 91010441C-STD

SEMATECH*August 31, 1995*

Abstract: This dictionary defines terms in the semiconductor industry. It is intended to provide a common SEMATECH language that improves communication within SEMATECH and throughout the SEMATECH community by providing and promoting a standard terminology. Some of the terms in this dictionary are specific to SEMATECH. This version (revision 5.0) also includes terminology from other industry organizations, namely the American Society of Mechanical Engineers (ASME), the American Society for Testing and Materials (ASTM), the Electronic Industries Association, the Institute of Electrical and Electronics Engineers, (IEEE), and Semiconductor Equipment and Materials International (SEMI). Sources are indicated at the end of each definition.

Keywords: Standards

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Bill Swiss, Director, Critical Materials, Information, and Planning
Sheila Endres, Technical Information Transfer Team Leader

acetic acid (CH_3COOH)

acetic acid (CH_3COOH) *n*: a sour, colorless, liquid compound that is a component of vinegar. [SEMATECH]

acetone ($[\text{CH}_3]_2\text{CO}$) *n*: a colorless, volatile, and extremely flammable liquid used as a solvent and as a reagent. [SEMATECH]

AC fine test dust *n*: a graded, naturally occurring dust frequently used as a polydisperse test aerosol. It is composed of 68% SiO_2 , 16% Al_2O_3 , and 4.6% Fe_2O_3 . The fine grade has 39% of its mass in particles less than 5 μm in size and 73% in particles less than 20 μm in size. [SEMATECH]

acid *n* 1: a substance that dissociates in water to liberate hydrogen or hydronium ions, donates a proton, accepts an unshared pair of electrons, or reacts with a base to form a salt. An acid has a pH of less than 7 and turns litmus paper red. [SEMATECH] 2: a corrosive material with the chemical reaction characteristic of an electron acceptor. [SEMI S4-92]

acidosis *n*: an abnormal increase in hydrogen-ion concentration in the body caused by an accumulation of an acid or loss of a base; may be respiratory, metabolic, or renal in nature. [SEMATECH]

acid tank *n*: a chemically inactive receptacle containing acid for etching, cleaning, or stripping wafers. [SEMATECH]

ACK *n*: *in message transfer*, "Correct Reception" handshake code. NOTE—The name (derived from ACKnowledged) of one of the four standard handshake codes used in block transfer protocol. The code ACK (00000110) corresponds to the ASCII code that has the same pattern. [SEMI E4-87]

across-the-seat test *n*: a test for leakage across the internal seal of a test component (for example, from one side of the valve seat to the other). [SEMATECH]

active area *n*: the region of thin oxide on a die or wafer in which transistors and other circuits reside. [SEMATECH]

active devices *n*: semiconductor devices that have active function, such as integrated circuits and transistors. [SEMI G35-87] Contrast **passive devices**.

active equipment *n*: equipment that loads a cassette onto the cassette stage of another piece of equipment, or unloads a cassette from the cassette stage of another piece of equipment. [SEMI E23-91] Contrast **passive equipment**.

active minienvironment *n*: a minienvironment that creates and maintains a controlled condition. [SEMI E44-95]

active transfer partner *n*: *in automated material movement*, a transfer partner that physically participates in the micro-level portion of a transfer, either by moving the transfer object or by moving impediments within the transfer envelope, such as doors or clamps. NOTE—This term refers to the micro-level transfer phase only, and not to any setup activities prior to the transfer. For example, a port door may be opened during setup phase by passive partner. [Adapted from SEMI E32-94] Contrast with **passive transfer partner**.

actual equipment production *n*: actual number of product wafers processed during productive time (including equipment loading and unloading). [SEMATECH] Also see **productive time**.

Appendix B

Definition of "support" from Webster's II New
College Dictionary

Webster's II

New College Dictionary



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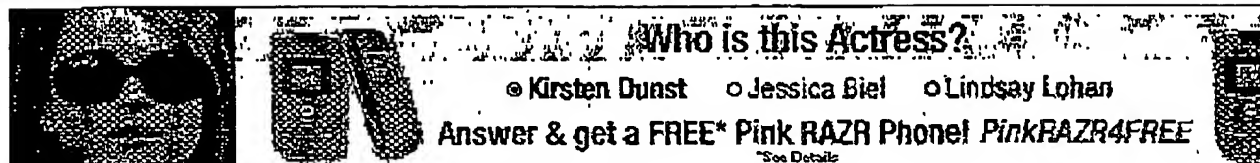
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Appendix C

Definition of "support" from Merriam-Webster Online
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support

11 entries found for **support**. The first 10 are listed below.
To select an entry, click on it. For more results, [click here](#).

support{1,transitive verb}
support{2,noun}
life-support
life support
life-support system
price support

Go

Browse by letter
A B C D E F G H I
N O P Q R S T U V

Browse words no
support

support

Main Entry: ¹**sup·port** 4)

Pronunciation: s&- 'pOrt, - 'port

Function: *transitive verb*

Etymology: Middle English, from Middle French *supporter*, from Late Latin *supportare*, from Latin, to carry, from *sub-* + *portare* to carry — more at [FARE](#)

1 : to endure bravely or quietly : [BEAR](#)

2 a (1) : to promote the interests or cause of (2) : to uphold or defend as valid or right : [ADVOCATE](#) (3) : to argue or vote for b (1) : ASSIST, HELP (2) : to act with (a star actor) (3) : to bid in bridge so as to show support for c : to provide with substantiation : [CORROBORATE](#) <support an alibi>

3 a : to pay the costs of : [MAINTAIN](#) b : to provide a basis for the existence or subsistence of <the island could probably support three -- A. B. C. Whipple>

4 a : to hold up or serve as a foundation or prop for b : to maintain (a price) at a desired level by purchases or loans; *also* : to maintain the price of by purchases or loans

5 : to keep from fainting, yielding, or losing courage : [COMFORT](#)

6 : to keep (something) going

- **sup·port·abil·i·ty** 4) /s&- "pOr-t&- 'bi-l&-tE, - "por-/
noun

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
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- **sup-port-able**  /- 'pɔr-t&-b&l, - 'por-/ *adjective*

- **sup-port-ive**  /- 'pɔr-tiv, - 'por-/ *adjective*

- **sup-port-ive-ness**  /-n&ɪs/ *noun*

synonyms SUPPORT, UPHOLD, ADVOCATE, BACK, CHAMPION mean to favor actively one that meets opposition. SUPPORT is least explicit about the nature of the assistance given <*supports* waterfront development>. UPHOLD implies extended support given to something attacked <*upheld* the legitimacy of the military action>. ADVOCATE stresses urging or pleading <*advocated* prison reform>. BACK suggests supporting by lending assistance to one failing or falling <refusing to *back* the call for sanctions>. CHAMPION suggests publicly defending one unjustly attacked or too weak to advocate his or her own cause <*championed* the rights of children>.

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